

What is claim is:

1. A process for producing high speed transmitting dielectric material comprises steps of:

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a: mixing a proportion of 5%-95% of polyphenylene ether (PPE) with a corresponding proportion of 95% - 5% of an epoxy resin of the type of low bromine content;

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b: reacting the mixture from step a in a non-polar solvent in the presence of 0.2%-1% of a catalyst in a reactor of a temperature of 90° C – 220° C;

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c: as the temperature in the reactor lowered to 70° C, adding a hardener in the reactor and allowing it to be dissolved therein; and

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d: formulating PPE and said epoxy resin into a varnish before phase separating occurring.

2. The process for producing high speed transmitting dielectric materials as in claim 1, wherein in step a, the proportion of PPE is preferably 20%, and the proportion of said epoxy resin is preferably 80%.

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3. The process for producing high speed transmitting dielectric materials as in claim 1, wherein in step b, the proportion of said catalyst is most preferably 0.5%.

4. The process for producing high speed transmitting dielectric materials as in claim 1, wherein in step b, said catalyst is 2-ethyl-4-methyl imidazole.
- 5 5. The process for producing high speed transmitting dielectric materials as in claim 3, wherein in step b, said catalyst is 2-ethyl-4-methyl imidazole.
6. The process for producing high speed transmitting dielectric materials as in claim 1, wherein in step b, said non-polar solvent  
10 is toluene.
7. The process for producing high speed transmitting dielectric materials as in claim 1, comprising further following step of providing cooling by circulation in the step b to avoid the vaporization of said non-polar solvent.
- 15 8. The process for producing high speed transmitting dielectric materials as in claim 1, wherein in the step c, said hardener is one selected from the group consisting of styrene-maleic- anhydride (SMA), aliphatic amine and aromatic amine.

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